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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,349	03/31/2004	Navneet Malpani	P18437	8289

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KONRAD RAYNES & VICTOR, LLP.
ATTN: INT77
315 SOUTH BEVERLY DRIVE, SUITE 210
BEVERLY HILLS, CA 90212

EXAMINER	
CHU, WUTCHUNG	
ART UNIT	**PAPER NUMBER**
2619	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/815,349	MALPANI ET AL.	
	Examiner	Art Unit	
	Wutchung Chu	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/11/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Abstract

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it is more than one paragraph and it exceeds the word range limitation. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 12-13, 27-28, and 42-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "may be" and "may not be) do not positively recite the claim limitations following it. Claims 14-15, 29-30, and 44-45 are rejected as they are dependent claims of claim 12, 27, and 42 which are rejected.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Heiner et al. (US2004/0203827).

Regarding claim 1, Heiner et al. disclose dynamic load distribution using local state information **(see Heiner et al. paragraph 9)** comprising:

- for each data path in a network adapter team, computing a load balancing value **(see Heiner et al. figure 1 box 12 and determining weights for available path and paragraph 28)**;
- determining a maximum value of the computed load balancing values **(see Heiner et al. paragraph 29 highest determined weight)**; and
- selecting a data path with the maximum value for use in routing data **(see Heiner et al. paragraph 29 path is selected based on the determined weights)**.

Regarding claims 16 and 31, Heiner et al. teaches system and software **(see Heiner et al. paragraph 9 and 33)** and disclose all the limitations as discussed in the

rejection of claim 1 and is therefore claims 16 and 31 are rejected using the same rationales.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 5-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Okamura et al. (US2004/0184483).

Regarding claim 5, Okamura et al. disclose a transmission bandwidth control device **(see Okamura et al. paragraph 19)** comprising:

- computing an actual load balancing share for each data path in a network adapter team **(see Okamura et al. 87 and 89 link bandwidth WL)**; and
- for each data path,
    - determining whether a load balancing share for the data path is less than the actual load balancing share for the data path **(see Okamura et al. paragraph 131)**; and

- when the load balancing share is less than the actual load balancing share, adjusting the load balancing share of the data path **(see Okamura et al. paragraph 93 and 131)**.

Regarding claim 6, Okamura et al. teach adjusting the load balancing share further comprises:

- determining whether a difference between the load balancing share and the actual load balancing share is less than a change threshold **(see Okamura et al. paragraph 131)**; and
- when the difference between the load balancing share and the actual load balancing share is less than the change threshold **(see Okamura et al. paragraph 131 and 132)**,
  - reducing the load balancing share of the data path **(see Okamura et al. paragraph 269)**; and
  - increasing the load balancing share of another data path **(see Okamura et al. paragraph 166)**.

Regarding claim 7, Okamura et al. teach the load balancing share of the data path in the network adapter team with a lowest difference load balancing value **(see Okamura et al. paragraph 95 and 196)** is increased, and wherein, if multiple data paths have the lowest difference load balancing value, a data path from the multiple

data paths with a highest actual load balancing share is increased **(see Okamura et al. paragraph 174)**.

Regarding claim 8, Okamura et al. teach further comprising: computing a difference load balancing value for each data path in the network adapter team **(see Okamura et al. paragraph 195 and 196 residual bandwidth)**.

Regarding claim 9, Okamura et al. teach the actual load balancing share and the difference load balancing value are computed when a timer fires **(see Okamura et al. paragraph 28)**.

Regarding claim 10, Okamura et al. teach further comprising: receiving a timer interval value **(see Okamura et al. paragraph 28)**, a change threshold value **(see Okamura et al. paragraph 195 and 196 residual bandwidth)**, and a load balancing change percent value **(see Okamura et al. paragraph 110 ratio)**.

Regarding claims 20-25 and 35-40, Okamura et al. teaches device **(see Okamura et al. figure 6 box10 network control device and figure 6 box 13 processing unit and it is inherent for processing unit to include software processing instructions)** and disclose all the limitations as discussed in the rejection of claims 5-10 and are therefore claims 20-25 and 35-40 are rejected using the same rationales.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Carr et al. (6081511).

Regarding claim 12, Carr et al. disclose load sharing for redundant networks **(see Carr et al. column 4 line 21-26)** comprising:

- determining whether a command may be routed through a first network adapter **(see Carr et al. column 19 line 5-15)**;
- routing the command through the first network adapter in response to determining that the command may be routed through the first network adapter **(see Carr et al. column 19 line 5-15)**; and
- routing the command through a second network adapter in response to determining that the command may not be routed through the first network adapter **(see Carr et al. column 4 line 46-54)**.

Regarding claim 13, Carr et al. teach the determination of whether a command may be routed through a first network adapter determines whether an indication that the first network adapter failed was received **(see Carr et al. column 19 line 18-35)**.

Regarding claim 14, Carr et al. teach routing the command further comprises: forwarding the command to a low level driver with an indication of the selected network adapter **(see Carr et al. column 9 line 23-25)**.

Regarding claim 15, Carr et al. teach further comprising: performing load balancing between the first network adapter and the second network adapter when both network adapters are available **(see Carr et al. column 9 line 15-21 and line 31-39)**.

Regarding claims 27-30 and 42-45, Carr et al. teaches device and software **(see Okamura et al. column 4 line 21-35 and column 9 line 25 bridging board and column 9 line 4 backplane buses and column 20 line 22-45 software)** and disclose all the limitations as discussed in the rejection of claims 12-15 and are therefore claims 27-30 and 42-45 are rejected using the same rationales.

Claim Rejections - 35 USC § 103

11. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heiner et al. in view of background of Heiner et al.

Regarding claim 2, Heiner et al. teach receiving a list of the data paths in the network adapter team **(see Heiner et al. paragraph 28 and 30 local state information)**, and disclose all the subject matter of the claimed invention with the exception of a total number of bytes transferred by the network adapter team, a load balancing share of each data path, and a number of bytes transferred on each data path.

The background of Heiner et al. from the same or similar fields of endeavor teaches the use of teaches the amount of packets or bytes being transferred over nodes and links thus loading them. Distributing traffic flows over multiple paths in a communication networks **(see Heiner et al. paragraph 4)**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the amount of packets or bytes being transferred over nodes and links thus loading them, and distributing traffic flows over multiple paths in a communication networks as taught by the background of Heiner et al. in the dynamic load distribution using local state information of Heiner et al. in order to enhance accuracy and monitoring of transmission.

Regarding claims 17 and 32, Heiner et al. and the background of Heiner et al. teaches system and software **(see Heiner et al. paragraph 9 and 33)** and disclose all the limitations as discussed in the rejection of claims 2 and are therefore claims 17 and 32 are rejected using the same rationales.

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heiner et al. in view of Okamura et al. (US2004/0184483).

Regarding claim 4, Heiner et al. disclose all the subject matter of the claimed invention with the exception of the load balancing share is provided by a user.

Okamura et al. from the same or similar fields of endeavor teaches the use of user terminal **(see Okamura et al. figure 6 box 20 and column 6 line 31)**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the user terminalin the dynamic load distribution using local state information of Heiner et al. in order to allow traffic transmission originate from user with types of service **(see Okamura et al. paragraph 4)**.

Regarding claims 19 and 34, Heiner et al. and the background of Heiner et al. teaches system and software **(see Heiner et al. paragraph 9 and 33)** and disclose all

the limitations as discussed in the rejection of claims 4 and are therefore claims 19 and 34 are rejected using the same rationales.

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamura et al. in view of the background of Heiner et al.

Regarding claim 11, Okamura et al. teach further comprising: receiving a list of data paths in the network adapter team **(see Okamura et al. paragraph 215 and figure 13 box 1106)**, and disclose all the subject matter of the claimed invention with the exception of a total number of bytes transferred by the network adapter team in a last time frame, a load balancing share of each data path in the last time frame, and a number of bytes transferred on each data path in the last time frame.

The background of Heiner et al. from the same or similar fields of endeavor teaches the use of teaches the amount of packets or bytes being transferred over nodes and links thus loading them. Distributing traffic flows over multiple paths in a communication networks **(see Heiner et al. paragraph 4)**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the amount of packets or bytes being transferred over nodes and links thus loading them, and distributing traffic flows over multiple paths in a communication networks as taught by

the background of Heiner et al. in the transmission bandwidth control device of Okamura et al. in order to enhance accuracy and monitoring of transmission.

Regarding claims 26 and 41, Okamura et al. and the background of Heiner et al. teaches device **(see Okamura et al. figure 6 box10 network control device and figure 6 box 13 processing unit and it is inherent for processing unit to include software processing instructions)** and disclose all the limitations as discussed in the rejection of claim 11 and are therefore claims 26 and 41 are rejected using the same rationales.

Allowable Subject Matter

18. Claims 3, 18, and 33 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Areddu et al. (US2006/0193331)
- Yamada et al. (US6940853)
- Ervin et al. (US6438133)
- Alicherry et al. (US20060291392)
- Kimball et al. (US2007/0030804)
- Wolff (US6185601)

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wutchung Chu whose telephone number is 571 270 1411. The examiner can normally be reached on Monday - Friday 1000 - 1500EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan D. Orgad can be reached on 571 272 7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WC/
Wutchung Chu

EDAN . ORGAD
SUPERVISORY PATENT EXAMINER
10/10/07